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A META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS OF CONVENTIONAL STENTING VERSUS DIRECT STENTING IN PATIENTS WITH AN ACUTE MYOCARDIAL INFARCTION

i2 Poster Contributions
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Session Title: Acute Myocardial Infarction
Abstract Category: 6. PCI - Acute MI
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Background: Direct stenting is commonly used during percutaneous coronary intervention for acute myocardial infarction (MI) to prevent distal embolization. However, no guideline recommendations exist regarding direct stenting (DS). We sought to compare direct stenting and conventional stenting (CS) in patients presenting with an acute MI.

Methods: Studies were identified from EMBASE, MEDLINE, and CENTRAL. To be included, randomized controlled trials must have assessed DS and CS in patients with an acute MI. Data was extracted and articles were critically appraised by two authors. Fixed effects model was used with Peto odds ratios(OR).

Results: Five trials met the eligibility criteria. Of 754 patients, 605 (80%) presented with a MI, and 51 (6.7%) presented with unstable angina. In hospital cardiovascular death occurred in 0.27% (1/375) in the DS group, and 2.11% (8/379) in the CS group (OR = 0.21, 95% CI = 0.06-0.77, p < 0.02, I2 = 0%). In hospital myocardial infarction occurred in 0.57% (2/350) in the DS group, and 1.69% (6/354) in the CS group (OR = 0.38, 95% CI = 0.09-1.51, p = 0.17, I2 = 7%). ST-segment resolution occurred in 68.9% (146/212) in the DS group versus 60.2% (127/211) in the CS group (OR = 1.51, 95% CI = 1.00-2.27, p = 0.05, I2 = 52%). No reflow occurred in 6.6% in DS group compared to 6.9% in the CS group (OR = 0.78, 95% CI = 0.39-1.55, p = 0.48, I2 = 0%).

Conclusion: Small trials suggest a potential benefit to DS in acute MI. Further large scale randomized trials are warranted to confirm the benefit of this approach.

Study or Subgroup	Direct stenting Events	Total	Conventional stenting Events	Total	Weight	Peto Odds Ratio Peto, Fixed, 95% CI
DIRAMI 2007	0	110	2	107	22.4%	0.13 [0.01, 2.10]
DIRECTO 2003	0	73	0	78		Not estimable
Loubeyre 2002	1	102	4	104	55.1%	0.30 [0.05, 1.76]
Ozdemir 2006	0	25	1	25	11.2%	0.14 [0.00, 6.82]
Sabatier 2002	0	65	1	65	11.2%	0.14 [0.00, 6.82]
Total (95% CI)		**375**		**379**	**100.0%**	**0.21 [0.06, 0.77]**
Total events	1		8			

Heterogeneity: Chi² = 0.37, df = 3 (P = 0.95); I² = 0%
Test for overall effect: Z = 2.34 (P = 0.02)